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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/626,650

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Masataka Yamashita

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,650

Applicant(s)

YAMASHITA ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/29/04 & 12/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. At least Figures 2, 11, and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see Pages 2 and 4 of the Specification, for instance). The applicants are further respectfully encouraged to designate any other figures illustrating only that which is old by a corresponding legend such as --Prior Art--. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: Page 15, Line 7 includes the term "electronized," which does not appear to be an actual English word (although the examiner could be mistaken on this count). The applicants are respectfully requested to

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substitute the term with "electrized" (or some other slightly more recognizable, not to mention definable term). Appropriate correction is humbly requested.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claim 6 is objected to because of the following informalities: Line 5 should be changed from "lectrons" to "electrons." Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 1 recites the limitations "measuring luminance" in lines 1 and 7; "in matrix" in line 3; and "each illumination" in line 8. There is insufficient antecedent basis for these limitations in the claim.

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9. Claim 2 recites the limitation "measurement of luminance of the pixel" in line 3; "measuring area" in line 7; and "each divided block" in line 10. There is insufficient antecedent basis for these limitations in the claim. Note that claim 1 speaks to "measuring luminance of the illuminated pixels" (see line 7) not to luminance measurement of any one individual pixel. Also note that it is unclear whether "each divided block" refers to each of the "plurality of blocks" (in line 7) or whether each of those plurality of blocks is further divided.

10. Claim 2 is additionally rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are between the pixel "matrix" in claim 1, line 3 and the sensor "matrix" in claim 2, line 5; and between the "plurality of pixels" in claim 1, line 2 and the "plurality of pixels" in claim 2, line 8. It is unclear whether the claims refer to two separate and distinct matrixes, or whether there is only one shared matrix. It is further unclear whether claim 2 is referring to the same plurality of pixels as claim 1, or whether there are two separate and distinct pluralities of pixels.

11. Claim 2 is further rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is whatever "each" is meant to refer to in line 8.

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12. Claim 3 recites the limitation "the aforementioned luminance measuring units" in line 3.

There is insufficient antecedent basis for this limitation in the claim. Claim 2 only mentions a single luminance measuring unit.

13. Claim 4 recites the limitation "each divided block" in line 3. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether "each divided block" refers to each of the "plurality of blocks" (in claim 2, line 7) or whether each of those plurality of blocks is further divided.

14. Claim 5 recites the limitations "in matrix" in line 3; "measuring luminance" in line 5; "each illumination" in lines 5-6; "adjusting luminance" in line 7; and "the measuring step" in line 8. There is insufficient antecedent basis for these limitations in the claim.

15. Claim 5 is additionally rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is whatever "measurement" is meant to refer to in line 8. Although line 5 speaks to "measuring luminance," it's not clear if line 8's "measurement" is referring to the same thing.

16. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural

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cooperative relationships are between the "plurality of electron-emitting device" in lines 2-3; "the electron-emitting device" in line 5; "each electron-emitting device" in line 11; and "the electron-emitting devices" in line 14. It is unclear whether each aforementioned section of the claim is referring to the same single electron-emitting device, or whether there are multiple, separate and distinct electron-emitting devices being addressed by the claim.

Additionally, there is an omitted structural cooperative relationship between the "emitted [e]lectrons" in lines 4-5; the "emit electrons" step in line 16; and "the emitted electrons" in line 19. It is unclear whether the same emitted electrons are being discussed in all of the aforementioned claim instances, or whether there are separate and distinct electron emissions being claimed.

17. Moreover, claim 6 recites the limitation "each divided area" in line 8; "the electron-emitting characteristics" in line 10; and "the divided area" in line 16. There is insufficient antecedent basis for these limitations in the claim. It is unclear whether a "divided area" refers to a single one of the "plurality of areas" (in line 8) or whether each of those plurality of areas is further divided.

18. Claim 6 is further rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is whatever "the result of the step of measuring" is meant to refer to in lines 12-14. Although line 8 speaks to "measuring luminance," it's not clear if "the step of measuring" in lines 12-14 is referring to the same thing.

19. Claim 7 recites the limitation "the colors" in line 5; "the red fluorescent material" in line 6; "the green fluorescent material" in line 6; and "the blue fluorescent material" in line 7. There is insufficient antecedent basis for these limitations in the claim.

20. Claim 8 recites the limitation "outputs" in line 13; "light-emitting characteristics" in lines 15-16; "selected devices" in line 16; "information of selection" in line 17; "the plurality of devices" in line 18; "the plurality of selected devices" in line 22; and "the display panel" in line 24. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

21. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

22. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by D'Souza et al (US 6,862,029 B1).

Regarding claim 1, D'Souza discloses a method of measuring luminance of an image display apparatus [Fig. 1; 10] having an adjacently disposed plurality of pixels [Fig. 1; 14] for displaying red, blue and green arranged in matrix [Fig. 1; 12] (see Column 3, Lines 12-15), comprising the steps of: illuminating the pixels in a time-sharing basis for each color (see

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Column 2, Lines 16-31), and measuring [Fig. 1; 18] luminance of the illuminated pixels for each illumination (see Column 4, Lines 14-19).

Regarding claim 2, D'Souza discloses measurement of luminance of the pixel is performed with a luminance measuring unit having a plurality of optical sensors (see Column 6, Lines 46-48) arranged in matrix by the steps of: dividing a display area of the image display apparatus into a plurality of blocks [Fig. 2; 212 -- note that the "pattern" has misidentified in Fig. 2 as "210"] corresponding to measuring area of the luminance measuring unit (see Column 6, Lines 17-32), each including a plurality of pixels (see Column 6, Lines 22-24), and moving the luminance measuring unit on each divided block for measuring luminance of each pixel (see Column 2, Lines 14-16).

Regarding claim 3, D'Souza discloses a plurality of the aforementioned luminance measuring units (see Column 6, Lines 46-48) are disposed on the image display apparatus and luminance of the pixels are simultaneously measured by the plurality of luminance measuring units (see Column 6, Lines 17-46).

Regarding claim 4, D'Souza discloses the pixels included in each divided block are simultaneously illuminated in color-to-color basis and luminance of the pixels in each color is measured (see Column 6, Lines 39-46).

Regarding claim 5, this claim is rejected by the same reasoning applied in rejecting claim 1; furthermore, D'Souza discloses adjusting luminance of each pixel based on the result of measurement in the measuring step (see Column 5, Lines 31-38).

Regarding claim 6, D'Souza discloses a method of adjusting characteristics of an image display apparatus comprising a multi-electron source [Fig. 1; 10] having a plurality of electron-emitting device [Fig. 1; 14] arranged on a substrate [Fig. 1; 12], and a fluorescent member emitting light by being irradiated by emitted electrons from the electron-emitting device (see Column 3, Lines 1-11), comprising the steps of: dividing a display area [Fig. 1; 12] of the image display apparatus into a plurality of areas [Fig. 2; 212 -- note that the "pattern" has misidentified in Fig. 2 as "210"] and measuring luminance of each divided area sequentially (see Column 2, Lines 16-31); and shifting the electron-emitting characteristics of each electron-emitting device to a predetermined target value by applying a characteristic shifting voltage based on the result of the step of measuring (see Column 5, Lines 31-38), wherein the step of measuring includes the steps of; allowing the electron-emitting devices that are not adjacent to each other in the divided area to emit electrons simultaneously (see Column 6, Lines 22-32), and measuring luminance of the fluorescent member that emits light upon irradiation of the emitted electrons (see Column 6, Lines 33-48).

Regarding claim 7, D'Souza discloses the electron-emitting devices that are not adjacent to each other in the divided area are devices selected from the electron-emitting devices that emit electrons to the fluorescent member (see Column 3, Lines 1-11) of any one of the colors selected

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from the red fluorescent material, the green fluorescent material, and the blue fluorescent material (see Column 3, Lines 12-15).

Regarding claim 8, D'Souza discloses a characteristic adjusting apparatus of an image display apparatus [Fig. 1; 10] having a plurality of electron-emitting devices [Fig. 1; 14] disposed on a substrate [Fig. 1; 12], comprising: a selecting and driving unit [Fig. 2; 204] for selecting and driving a plurality of electron-emitting devices that are not adjacent to each other in a predetermined area [Fig. 2; 212 -- note that the "pattern" has misidentified in Fig. 2 as "210"] on a display unit [Fig. 2; 210] of the image display apparatus [Fig. 2; 200] simultaneously (see Column 6, Lines 22-32), a timing signal generating unit [Fig. 2; 202] being synchronous with a driving time of the selecting and driving unit, a light-emitting unit [Fig. 2; 210] for emitting light by the emitted electrons from the electron-emitting devices (see Column 3, Lines 1-11), at least one luminance measuring unit [Fig. 2; 208] for taking a luminance signal from the light-emitting unit synchronously with outputs from the timing signal generating unit, a calculating unit [Fig. 2; Polynomial Coefficient Computation Program] for obtaining light-emitting characteristics of selected devices on the basis of a signal obtained from the luminance measuring unit and information of selection of the plurality of devices from the driving unit individually (see Column 6, Lines 49-62), a storing unit [Fig. 3; 302] for storing an output from the calculating unit; a voltage applying unit for applying a characteristic sifting voltage to the plurality of selected devices (see Column 5, Lines 31-38); and at least one moving unit [Fig. 2; Production Line] for relatively moving the luminance measuring unit and the display panel (see Column 2, Lines 14-16).

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Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Nakamura et al (US 2005/0104877 A1), Allen et al (US 2003/0179192 A1), Tobiya (US 6,903,714 B2), Yano (US 6,900,832 B1), Miyazaki et al (US 6,879,096 B1), Cok et al (US 6,717,560 B2), Clifton et al (US 6,388,648 B1), Foley et al (US 5,510,851 A), Shalit (US 5,115,229 A), and Sato et al (US 4,989,072 A) are cited to further evidence the state of the art pertaining to measuring image display luminance.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


J.P.

15 September 2005


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